REPORT OF NATURAL STOCKS SESSION

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A. Objectives

1. To evaluate the principal natural baitfish resources of the Pacific with respect to their capacity either to support local skipjack tuna fisheries or as sources of bait for distant-water transport ventures.
2. To recommend specific actions for improving the understanding, development and management of the natural bait fisheries.

B. Resource Evaluation

The group agreed that the main baitfish resources of the Pacific fell naturally into three distinct classes.

1. In the first category are the large stocks of Engraulis occurring in the eastern Pacific and off Japan, Korea, Taiwan, the Philippines and Australia. These stocks, with some questions on the Philippines, are judged to be adequate to support any local skipjack tuna fishery as well as providing low cost sources of bait for transport schemes. The Japanese stocks of E. japonica currently support Japan's local skipjack tuna fisheries as well as her distant Southern Seas operations.
2. In the second group are smaller stocks of other baitfishes, principally Stolephorus, which currently support stable or growing local skipjack tuna fisheries. These are in Hawaii, Palau, Papua New Guinea, and the Solomons.

In Hawaii the principal baitfish is the nehu, S. purpureus. The abundance of nehu is thought to be independent of baiting effort (at current levels). Demand for the bait peaks in the summer. Availability of the nehu is quite variable with perhaps tenfold variation in average catch rates from week to week. Shortages may occur both during the off season and in the summer period of peak skipjack tuna abundance when baiting effort is also highest. Most bait is taken in day fisheries, so the opportunity cost of the bait is very high, especially during the summer. It is unlikely that any sizeable expansion of the skipjack tuna fishery will be possible without the introduction of substitute baits.

In Palau, S. heterolobus supports a modest skipjack tuna fishery, and the current harvest of bait is thought to be approaching the maximum sustainable yield of the stock. Further expansion of the skipjack tuna fishery is possible primarily through improved bait handling and conservation of bait on the vessels.

In Papua New Guinea, Stolephorus resources are ample enough to support an expansion of the skipjack tuna fishery with current fishing practices. In addition, with improved handling and carrying techniques a significant expansion of the skipjack tuna operations could be realized without an increase in bait catch. As in the Palauan and Hawaiian bait fisheries, catch

rates are quite variable, but no long-term fluctuations in abundance have been noted.

In the British Solomons, stocks of Stolephorus support a harvest of 6,000 metric tons of skipjack tuna. Prospects for expansion are unknown.

2. The third category includes the baitfish stocks of all other areas, which are either known to be poor (such as American Samoa) or where information was too scanty to permit an accurate assessment of potentials. Included here also are Fiji, where a skipjack tuna fishery development program is beginning, based on local bait resources, and New Caledonia, where the activities of Japanese fishing interests suggest the possibility of adequate local bait stocks.

C. Recommendations

The group recommended that steps be taken to

1. Develop better bait handling and holding techniques to permit the fullest utilization of catches from natural baitfish stocks.
2. Clarify the taxonomic status and nomenclature of the Stolephorids and establish a reference collection of specimens.
3. Encourage the exchange of "loose" information on natural baitfish research, such as summaries of unpublished data and trip reports.
4. Adopt the recommendations of the South Pacific Commission's Expert Committee on Tropical Skipjack regarding the collection of bait catch statistics from joint venture skipjack tuna fisheries throughout the Pacific. The group suggests that

the data list prepared by the Committee be extended to include a measure of nominal baiting effort, such as the number of net lifts or sets corresponding to the reported bait catch.